1639

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Confirmation No. 1501
Min LI	)	Group Art Unit: 1639
Serial No. 09/726,624	)	Examiner: P. Ponnaluri
Filed: November 30, 2000	)	
For: METHOD OF DETECTION UTILIZING MODIFIED BACTERIOPHAGE	)	Attorney Dkt. No. 001107.00063

AMENDMENT

Commissioner of Patents
c/o Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

In response to the Office Action dated June 27, 2005, applicants request entry of the amendment and reconsideration of the patentability of the claims.

If any fees are required please charge our deposit account no. 19-0733.

1. (Proposed amendment) A method of detecting the presence of a ~~polypeptide~~ cellular protein on the surface of a cell in a sample using a detectable, recombinant virus expressing a ligand on its surface which specifically binds to the ~~polypeptide~~ cellular protein, comprising:

contacting the sample with a population of the detectable, recombinant virus, each virus expressing on its surface the ligand for the ~~polypeptide~~ cellular protein; and

detecting binding of the virus to cells in the sample, thus detecting the presence of the ~~polypeptide~~ cellular protein in the sample.

2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Proposed amendment) A method of detecting the presence of a selected ~~polypeptide~~ cellular protein on the surface of a cell in a sample using a detectable, recombinant virus expressing a ligand on its surface which specifically binds to the ~~polypeptide~~ cellular protein, comprising:

contacting the sample with a population of the detectable virus, each virus expressing on its surface the ligand, wherein the ligand has been previously demonstrated to specifically bind the selected ~~polypeptide~~ cellular protein; and

detecting binding of the virus to cells in the sample, thus detecting the presence of the selected ~~polypeptide~~ cellular protein in the sample.

6. (Cancelled)
7. (Cancelled)
8. (Cancelled)

9. (Proposed amendment) A method of detecting the presence of a selected cellular protein on the surface of a cell using a detectable, recombinant virus expressing a ligand on its surface which specifically binds to the ~~polypeptide~~ cellular protein, comprising:

contacting the cell with a population of the detectable virus, each virus expressing on its surface the ligand, wherein the ligand has been previously demonstrated to specifically bind to the selected cellular protein; and

detecting binding of the virus to the cell, thus detecting the presence of the selected cellular protein on the surface of the cell.

10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (Cancelled)
17. (Proposed amendment) A method of detecting the presence of a selected ~~polypeptide~~ cellular protein on the surface of a cell in a sample using a detectable, recombinant bacteriophage expressing a ligand on its surface which specifically binds to the ~~polypeptide~~ cellular protein, comprising:

contacting the sample with a population of the detectable bacteriophage, each bacteriophage expressing on its surface at least 10 copies of the ligand for the selected ~~polypeptide~~ cellular protein: and

detecting binding of the bacteriophage to cells in the sample, thus detecting the presence of the selected ~~polypeptide~~ cellular protein in the sample.

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Previously presented) A method of detecting the presence of a selected cellular protein on the surface of a cell using a detectable, recombinant bacteriophage expressing a ligand on its surface which specifically binds to the ~~polypeptide~~ cellular protein, comprising:

contacting the cell with a population of the detectable bacteriophage, each bacteriophage expressing on its surface at least 10 copies of the ligand for the selected cellular protein: and

detecting binding of the bacteriophage to the cell, thus detecting the presence of the selected cellular protein on the surface of the cell.

23. -44. (Cancelled)

45. (Previously presented) The method of claim 1, wherein the virus is a bacteriophage.

~~46.~~ (Proposed amendment) ~~The method of claim 1, wherein the polypeptide is a cellular protein.~~

47. (Previously presented) The method of claim 1, wherein the sample is a clinical sample.

48. (Previously presented) The method of claim 5, wherein the virus is a bacteriophage.

~~49.~~ (Proposed amendment) T~~he method of claim 5, wherein the polypeptide is a cellular protein.~~

50. (Previously presented) The method of claim 5, wherein the sample is a clinical sample.

51. (Previously presented) The method of claim 9, wherein the virus is a bacteriophage.

52. (Cancelled)

53. (Previously presented) The method of claim 9, wherein the cellular protein is a receptor or channel protein.

54. (Previously presented) The method of claim 9, wherein the cellular protein is N-methyl D-aspartate receptor.

55. (Previously presented) The method of claim 9, wherein the cells are in culture.

56. (Previously presented) The method of claim 9, wherein the cells are in vivo.

57. (Previously presented) The method of claim 9, wherein the ligand expressed on the surface of the virus is selected from the group consisting of the peptide whose amino acid sequence is set forth as SEQ ID NO:2 and the peptide whose amino acid sequence is set forth as SEQ ID NO:3.

58. (Previously presented) The method of claim 17, wherein the bacteriophage expresses on its surface at least 100 copies of the ligand.

59. (Previously presented) The method of claim 17, wherein the bacteriophage expresses on its surface at least 400 copies of the ligand.

~~60.~~ (Proposed amendment) ~~The method of claim 17, wherein the polypeptide is a cellular protein.~~

61. (Previously presented) The method of claim 17, wherein the sample is a clinical sample.

62. (Previously presented) The method of claim 22, wherein the bacteriophage expresses on its surface at least 100 copies of the ligand.

63. (Previously presented) The method of claim 22, wherein the bacteriophage expresses on its surface at least 400 copies of the ligand.

64. (Cancelled)

65. (Previously presented) The method of claim 22, wherein the cellular protein is a receptor or channel protein.

66. (Previously presented) The method of claim 22, wherein the cellular protein is N-methyl D-aspartate receptor.

67. (Previously presented) The method of claim 22, wherein the cells are in culture.

68. (Previously presented) The method of claim 22, wherein the cells are in vivo.

69. (Previously presented) The method of claim 22, wherein the ligand expressed

on the surface of the virus is selected from the group consisting of the peptide whose amino acid sequence is set forth as SEQ ID NO:2 and the peptide whose amino acid sequence is set forth as SEQ ID NO:3.

70. (Previously presented) The method of claim 1 wherein the virus expresses on its surface at least 10 copies of the ligand.

71. (Previously presented) The method of claim 5 wherein the virus expresses on its surface at least 10 copies of the ligand.

72. (Previously presented) The method of claim 9 wherein the virus expresses on its surface at least 10 copies of the ligand.

73. (Previously presented) The method of claim 1 wherein the virus is a filamentous bacteriophage and the ligand is fused to phage coat protein pVIII.

74. (Previously presented) The method of claim 5 wherein the virus is a filamentous bacteriophage and the ligand is fused to phage coat protein pVIII.

75. (Previously presented) The method of claim 9 wherein the virus is a filamentous bacteriophage and the ligand is fused to phage coat protein pVIII.